MISSOUR VOLUME 80, ISSUE 12, DECEMBER 2019 SERVING NATURE & YOU CONSERVATIONST







Peck Ranch Conservation Area

"Wonderful wildlife watching!"

Bois D'Arc Conservation Area

"Great hunting with my dad" Bethany Falls Trail

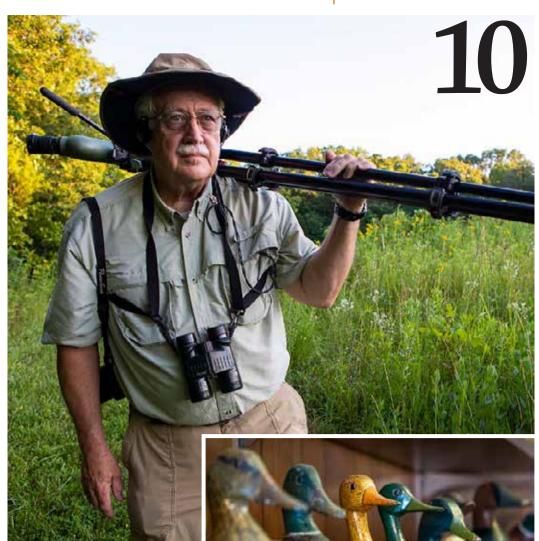
"Awesome trail!"

Busch Shooting Range

"Sharpening my skills for hunting season :)" Runge Conservation Nature Center

"Best family events in central Missouri"

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MISSOURI CONSERVATIONIST



ON THE COVER

Dark-eyed junco

NOPPADOL PAOTHONG

500mm lens +2 0x teleconverter f/10, 1/320 sec, ISO 200

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Inbox



Letters to the Editor

Submissions reflect readers' opinions and may be edited for length and clarity. Email Magazine@mdc.mo.gov or write to us:

MISSOURI CONSERVATIONIST PO BOX 180 JEFFERSON CITY, MO 65102



HUNTING LEGEND

Great story highlighting Missouri Bootheel leaend Neelv "Butch" Mitchell on his waterfowl career [Sharing Hunting's Adventures. November: Page 10].

Scott Turnage via Facebook

TIMELY ARTICLE

While camping recently on the banks of the Current River, I noticed little glowing green lights while wearing my headlight. On closer inspection, I saw many small spiders on the rocks and leaves. I had never noticed these before in all my years. (I don't usually camp in October!)

I had thrown in some reading materials and read the October issue of the Missouri Conservationist article on wolf spiders [Little Wolves of Missouri, Page 11]. I found out exactly what I was seeing. Thank you for such a timely piece.

Judy Marvin Hunter

OCTOBER ACCOLADES

Thank you for the close-up photo of the spider on October's Missouri Conservationist. My preschool students and I delighted in the detailed photo as we studied spiders and how beneficial they are. The Missouri Conservationist and Xplor are great resources of information and beautiful photos for our classroom. Thank you!

Erin Guenther Kirkwood

I just finished reading the October issue cover to cover. Every article was well-written, thorough, and fascinating! I especially enjoyed the articles on wolf spiders and the tracking of migratory songbirds. I have been receiving and reading this excellent publication for most of my adult life, and it just keeps getting better. Great work!

April McDonough Aurora

As a former newspaper editor, I have noted many good changes in this year's Missouri Conservationist. The October issue is full of interesting and educational articles, like wolf spiders, pecans, and bird tracking. I want to note especially how the magazine does not look like a web page; it looks

like a magazine with interesting text, photos, and sidebars, which draw the reader into the narrative, raising awareness and providing possible reader responses. For example, all spiders do not need to be avoided; pecans have a history; and tracking birds provides research toward their preservation. Keep up the good work.

Mark G. Boyer Springfield

NOVEMBER ISSUE

What a beautiful issue! I loved the family hunting stories [Sharing Hunting's Adventures, Page 10], but most of all I loved Danny Brown's photo essay on birds of prey [St. Louis: Where Birds of Prey Abound, Page 18]. I lived blocks from Tower Grove Park years ago and had no idea so many birds were there.

Nancy C. Jefferson City

Best issue ever! The owl and hawk photos are stunning. Nature is really all around us, isn't it? Keep the close-ups of spiders coming. And snakes. My grandson loves them all.

Marion Miller via email

Thank you for the article with photos by Danny Brown. I love these gorgeous creatures and am glad you featured raptors in the magazine. The photos are amazing.

David M. Huddart Clayton

OPOSSUM OF A DIFFERENT COLOR

I finally saw an opossum that I have been longing to see for about 50 years. I had read an article in a Journal of Natural Science by a man who had encountered a yellow opossum. In November 2018, a yellow opossum came to my deck for several weeks, sometimes with a "normal" litter mate. Just before winter set in, it never came back. Perhaps its color made it easy prey.

Edgar Phillips Marshall

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Question for a Commissioner?

Send a note using our online contact form at mdc.mo.gov/ commissioners.

Want to see your photos in the Missouri Conservationist?

Share your photos on Flickr at flickr.com/groups/mdcreaderphotos-2019, email Readerphoto@mdc.mo.gov, or include the hashtag #mdcdiscovernature on your Instagram photos.



- 1 | Missouri River by trtsahoffman, via Instagram
- 2 | Hornet's nest by Elizabeth May, via email
- 3 Greater roadrunner by Zach Haring, via Flickr





MISSOURI CONSERVATION COMMISSIONERS



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Orscheln



ront

with Sara Parker Pauley

🖸 The week before firearms deer season, as we were preparing deer camp and getting in some bowhunting, the weather turned sharply overnight. With temperatures plummeting and high winds howling, sending snow whirling across open fields, we opted to stay in the warmth and watch movies. The consensus was to take a break from the usual Westerns to watch a favorite documentary, Alone in the Wilderness. It tells the story of Dick Proenneke, who lived alone in the mountains of Alaska for more than 30 years. But the film, which he shot himself, is primarily that of his first year, in which he builds his own log cabin, hunts, fishes, gathers and gardens for sustenance, while capturing the awesome beauty of the natural world around him.

What intrigues me most about this film is that it captures not only the sheer mastery of Proenneke's skills, from carpentry to filming to survival in the wild, but it also reveals what adventures are possible when one is relentless in their passions and pursuits. I find the same intrigue in the article about Brad Jacobs on Page 10 — that of a relentless birder, a master of his trade, and the marvelous journey that combines both.

May the close of this year and the coming of the next inspire us all to become a better version of what we want to be — a naturalist, a birder, an archer, an angler — and may we enjoy great satisfaction through each step of the journey.

SARA PARKER PAULEY, DIRECTOR

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Printed with soy ink

LOYD GROTJAN OF FULL SPECTRUM PHOTO



by Bonnie

Each month, we highlight research MDC uses to improve fish, forest, and wildlife management.

FISHERIES MANAGEMENT

Asian Carp Removal

② If you visited St. Louis County's Creve Coeur Lake Park last winter, you likely saw lots of boats pulling long nets. Their purpose? To reduce the lake's biggest nuisance — invasive Asian carp.

Bighead and silver carp, both introduced from Asia, have been damaging the Creve Coeur Park Lake fishery for years. "They have really reduced the quality of sport fishing, especially for crappie," said MDC Fisheries Management Biologist Kevin Meneau.

After several attempts to remove them with limited success, MDC, St. Louis County Department of Parks and Recreation, U.S. Geological Survey, and the U.S. Fish and Wildlife Service formed a partnership to execute an innovative Asian carp removal project last January and February.

"It was a big job," said Meneau. "It took 18 months of planning, a lot of borrowed equipment from all



Results from the 2018 Creve Coeur Park Lake experiment could shape control of invasive carp in floodplain lakes

over the Midwest, and people from as far away as La Crosse, Wisconsin," he said.

The partnership applied a technique called the unified method. Adapted from proven techniques used in Asia, this method combines fish herding, clearing, and blocking re-entry using several boats, long nets, and dozens of staff.

The result? Over a period of three weeks, the team captured roughly 47,000 carp, about 85 percent of the lake's estimated population. "By removing most of the Asian carp, we can expect to see good white crappie fishing again in three to five years," Meneau said.

On a broader scale, results show that the unified method could be ready for future use in floodplain lakes in Missouri and elsewhere.

Asian Carp Experiment at a Glance

The Experiment

- 1. Divide the lake into cells using nets
- 2. Drive fish out of cells using sound, localized electricity, and nets
- Use sonar and selected radio-tagged fish to track school movements
- 4. Block fish re-entry into cleared cells
- 5. Push fish toward a central collection point
- 6. Sort captured fish and return native species
- 7. Dispose of captured invasive Asian carp



The

85% captured

First successful adaptation of unified method in USA

Crappie fishing expected to improve

In Brief

News and updates from MDC



DISCOVER NATURE WITH MDC EAGLE DAYS

EVENTS ARE HELD AROUND THE STATE

→ From December through February, Missouri's winter eagle watching is spectacular. Discover nature with MDC through Eagle Days events around the state or enjoy watching bald eagles on your own.

Because of Missouri's big rivers, many lakes, and abundant wetlands, the Show-Me state is one of the leading lower 48 states for bald eagle viewing. Each fall, thousands of these great birds migrate south from their nesting range in Canada and the Great Lakes states to hunt in Missouri. Eagles take up residence wherever they find open water and plentiful food. More than 2,000 bald eagles are typically reported in Missouri during winter.

MDC Eagle Days events are listed below. Events include live captive-eagle programs, exhibits, activities, videos, and guides with spotting scopes. Watch for eagles perched in large trees along the water's edge. View them early in the morning to see eagles flying and fishing. Be sure to dress for winter weather and don't forget cameras and binoculars.

- Mound City: Dec. 7 from 9 a.m. to 4 p.m. and Dec. 8 from 10 a.m. to 4 p.m. at Loess Bluffs National Wildlife Refuge near Mound City. Call 816-271-3111, ext. 1431, or 816-271-3100 for more information.
- Kansas City: Jan. 4 from 9 a.m. to 3:30 p.m. and Jan. 5 from 10:30 a.m. to 3:30 p.m. at Smithville Lake Paradise Pointe Golf Course Clubhouse, north of Kansas City. Call 816-532-0174 for more information.
- **St. Louis:** Jan. 18 and 19 from 9 a.m. to 3 p.m. at the Old Chain of Rocks Bridge, south of I-270 off Riverview Drive in St. Louis. Call 314-877-6014 for more information.
- **Springfield:** Jan. 18 from 9 a.m. to 4 p.m. and Jan. 19 from 12:30 to 4:30 p.m. at Springfield Conservation Nature Center. Call 417-888-4237, ext. 1708 for more information.
- Clarksville: Jan. 25 from 9 a.m. to 4 p.m. and Jan. 26 from 10 a.m. to 3 p.m. at Lock and Dam 24 and Apple Shed Theater in Clarksville. Call 660-785-2424, ext. 6506, or 660-785-2420 for more information.
- **Stella:** Jan. 25 from 10 a.m. to 3 p.m. at Veterans Memorial Park in Stella. Call 417-629-3423 for more information.
- **Jefferson City:** Feb. 1 from 10 a.m. to 3 p.m. at Runge Conservation Nature Center. Call 573-526-5544, ext. 3407 for more information.

Eagle Days continued on Page 6 »

EAGLE DAYS (continued)

Eagle Watching on Your Own

Can't make an Eagle Days event? Other hot spots for winter eagle viewing include:

- Lake of the Ozarks at Bagnell Dam Access, east
- Eagle Bluffs Conservation Area (CA) on Route K, southwest of Columbia
- Harry S. Truman Visitor Center, Warsaw
- Lock & Dam 20, Canton
- Lock & Dam 24 at Clarksville
- Lock & Dam 25, east of Winfield
- Loess Bluffs National Wildlife Refuge, south of
- Mingo National Wildlife Refuge, northwest
- Old Chain of Rocks Bridge, south of I-270 off Riverview Drive, St. Louis
- Riverlands Migratory Bird Sanctuary, east of Alton
- Schell-Osage CA, north of El Dorado Springs
- Smithville Lake, north of Kansas City
- **Stella** at Moses Eagle Park
- Stockton Lake, Stockton
- Swan Lake National Wildlife Refuge, south of Sumner
- Table Rock Lake, southwest of Branson
- Truman Reservoir, west of Warsaw

For more information on bald eagles, visit the MDC online Field Guide at short.mdc.mo.gov/ZpY. For more information on Eagle Days, visit short.mdc.mo.gov/ZG7.

NEED HOLIDAY GIFTS?

MDC's online Nature Shop makes holiday shopping a breeze for anyone interested in nature-themed gifts. Offerings include the ever-popular Natural Events Calendar, plus a variety of books and more for all ages.

Holiday shoppers can also skip retail stores and visit one of MDC's nature centers — located in Kirkwood, Cape Girardeau, Springfield, Kansas City, Blue Springs, and Jefferson City for an array of reasonably priced, nature-themed holiday gifts.

The 2020 Natural Events Calendar (\$9 plus tax) is available at our nature centers and regional offices, and through our online Nature Shop at mdcnatureshop.com or by calling 877-521-8632. Customers using their MDC Heritage Card or Permit Card can get a 15 percent discount.

Conservation makes Missouri a great place to hunt and fish, so give the gift of hunting and fishing permits. Buy them from vendors around the state, online at mdc.mo.gov/ buypermits, or through our free mobile apps, MO Hunting and MO Fishing, available for download through Google Play for Android devices or the App Store for Apple devices.

Ask **MDC**

Got a Question for Ask MDC?

Send it to AskMDC@mdc.mo.gov or call 573-522-4115, ext. 3848.

Q: Is this a merlin? We saw it on Christmas Day near our home west of Eolia.

No, this is an immature sharp-shinned hawk. Many people ask about the identification of raptors with brown streaking in the breast like this bird. Sharp-shinned and Cooper's hawks look similar in both immature and adult plumages, which look quite different. Immature Cooper's and sharp-shinned hawks both have vertical brown streaking on the breast and varying degrees of brown and white mottling on the head and back. General features to differentiate these two species in either plumage are a large, blocky head and a rounded, graduated tail in the Cooper's hawk, as opposed to a smaller, rounder head and squared-off tail in a sharp-shinned hawk. While a merlin has brown streaks on the breast, they are a much smaller and stockier bird with



a noticeable white eyebrow line, a dark moustachial mark on the face, a dark or black tail, and narrow light bands, and big feet.

Q: While walking through the woods. I had found a mature buck with his head to the ground and his antlers attached to those of a dead foe. Does this happen often?

It happens, but rarely.

To assess one another's rank in the social hierarchy, bucks frequently engage in acts of sparring before and throughout breeding season. Normally mild, these episodes can escalate into intense fights if two males of equal size and dominance meet.

Unlike bighorn sheep, bucks do not repeatedly charge one another. Instead, opponents approach one another slowly with heads lowered. They may lock antlers violently at close range. They then push and thrash, attempting to injure their rival or cause him to retreat.

Once their antlers meet, they push and shove without making new contacts. Only rarely do the antlers become permanently entangled. When this happens, the bucks sometimes exhaust themselves and one — or both — can die of weakness, thirst, and starvation. While entangled, they are also susceptible to



predation since they cannot flee or ward off predators.

Q: How can I distinguish plains pocket gopher tunnels from more-common mole tunnels?

→ Parts of north Missouri are within the range of the plains pocket gopher (*Geomys bursarius*), a stocky rodent well adapted for subterranean life.

Pocket gophers create an extensive system of tunnels marked on the surface by numerous mounds of excavated earth. One animal's tunnel system may cover an acre or more. As the gopher excavates, he pushes dirt to the surface, forming flat, fan-shaped mounds. Gopher

mounds can develop vegetation, but only after seeds germinate and grow.

In contrast, eastern moles (Scalopus aquaticus) push up sod by digging shallow runways. These types of tunnels are often dug by moles searching for food after it rains. They're usually not reused. Like gophers, moles live underground in permanent chambers below the frostline and make "molehills," or piles of loose soil pushed to the surface through vertical tunnels.

Molehills are sometimes confused with pocket gopher mounds. If you see fan-shaped mounds, you may have pocket gophers. If you see shallow runways, you likely have moles.



Can you guess this month's natural wonder?

The answer is on Page 9.





Matt Smith

MORGAN COUNTY
CONSERVATION AGENT

offers this month's

AGENT ADVICE

Missouri hunters have ample opportunities to harvest a deer. If so desired, you could chase whitetails through the woods from Sept. 15 through Jan. 15. Oftentimes, hunters are so focused on November firearms season that I remind them of the success that awaits in late deer season. It kicks off Nov. 29–Dec. 1 with the late youth season, followed by the antlerless portion, Dec. 6–8. Late season rounds out with the alternative methods portion, Dec. 28– Jan. 7, when hunters are encouraged to try different means of harvest like muzzleloaders, atlatls. longbows, and more.

FOR MORE INFORMATION, CHECK OUT THE 2019 FALL DEER AND TURKEY BOOKLET, AVAILABLE WHERE PERMITS ARE SOLD AND ONLINE AT SHORT.MDC.MO.GOV/ZMP.

In Brief



INGREDIENTS:

21/2 cups flour

1 cup sugar

1 teaspoon baking soda

½ teaspoon salt

1/4 teaspoon cinnamon

1/4 teaspoon ground cloves

2 tablespoons unsweetened cocoa powder

2 tablespoons grated fresh ginger root (peeled)

½ teaspoon vanilla

3 eggs

1 cup black walnuts (toasted lightly; skins removed as much as possible* and chopped coarsely)

1/4 cup almonds, toasted lightly and coarsely chopped

*REMOVING WALNUT SKINS

While the nuts are still hot from toasting, wrap them in a tea towel and rub them lightly against each other to remove as much skin as possible. Then proceed with chopping.

BATTER can be mixed in a large bowl by hand, but is much easier with a food processor or large electric mixer. Blend dry ingredients (flour through cocoa powder) until mixture is well combined. In a small bowl, whisk together the ginger root, vanilla, and eggs; add to the dry ingredients, beating until a dough is formed. Stir nuts in by hand.

PREHEAT oven to 350 degrees F. Turn dough out onto lightly floured surface and knead several times. Divide into thirds. Butter and flour baking sheet. With floured hands, form each piece of dough into a 10- by 2½-inch log. Flatten lightly with hands. Arrange logs on sheet 4 inches apart.

BAKE for 25 minutes. Place baking sheet on a rack and let cool for 10 minutes. Remove logs from sheet and cut each crosswise on a diagonal into 34-inch-thick slices. Arrange biscotti, cut sides down, on two baking sheets and bake for 5 minutes on each side. Transfer biscotti to racks to cool. Store in airtight containers. Will keep for two weeks.

OPTIONAL GLAZE:

To dress up your biscotti, dip the ends in chocolate or zigzag chocolate on them. Here's how:

MELT 3 ounces of highquality dark chocolate and 2 tablespoons unsalted butter together over low heat. Remove from heat and add 2 tablespoons corn syrup (and just a touch of your favorite liqueur, if desired). Stir well and fill a pastry bag fitted with a small, round tip.

After cookies are cooled, squeeze chocolate through the pastry bag's tip in thin ribbons down the length of the cookie. Alternatively, dip end in the warm chocolate and shake gently to remove excess. Dry thoroughly on racks before cooling.

Recipe and photo taken from Cooking Wild in Missouri by Bernadette Dryden

PROVIDE INPUT ON UPCOMING WATERFOWL SEASONS

MDC invites waterfowl hunters to a series of public workshops around the state to gather input about duck season dates and zone boundary locations for the 2021–2025 seasons.

Participants will have the opportunity to review long-term waterfowl data about weather, migration, habitat use, harvest, and hunter opinions, and discuss their season date and zone preferences with other hunters and MDC staff. MDC will use hunter input gathered through the workshops, combined with hunter opinion surveys, to establish Missouri's 2021-2025 duck season dates and zones.

The following 2020 waterfowl workshops will be held from 7–9 p.m. No reservations are necessary. Call the related phone number for more information.

- Jan. 28, Harrisonville: Cass County Sheriff's Office, 2501 W. Mechanic, 660-885-6981 or 816-622-0900
- Jan. 29, Excelsior Springs: Lake Doniphan Conference and Retreat Center, 12856 Doniphan Lake Road, 816-622-0900
- Jan. 30, Columbia: Riechmann Indoor Pavilion at Stephen's Lake Park, 2300 E. Walnut St., 573-815-7900
- Feb. 4, Joplin: MDC Shoal Creek Conservation Education Center, 201 W. Riviera Drive, 417-895-6880
- Feb. 5, Springfield: MDC Springfield Conservation Nature Center, 4600 S. Chrisman, 417-895-6880
- Feb. 11, Dexter: National Guard Armory, 1702 Missouri Hwy 114, 573-290-5730



- Feb. 12, Cape Girardeau: Drury Plaza Hotel Cape Girardeau Conference Center, 3351 Percy Drive, 573-290-5730
- Feb. 13, Portageville: Fisher Delta Research Center, 147 State Hwy T, 573-290-5730
- Feb. 18, St. Joseph: MDC Northwest Regional Office, 701 James McCarthy Drive, 816-271-3100
- Feb. 19, Chillicothe: Comfort Inn and Suites, 250 E. Business 36, 816-271-3100
- Feb. 20, Kirksville: MDC Northeast Regional Office, 3500 S. Baltimore St.,
- March 3, Elsberry: American Legion, 111 Legion Drive, 636-441-4554
- March 4, St. Charles: Wapelhorst Park Gould Upper Level, 1875 Muegge Road, 636-441-4554

For more information, visit short.mdc.mo.gov/Zq8.

WHATISIT? **BLUE JAY**

As the name suggests, blue jays are known for their blue feathers. But take a closer look and there are more hues than just blues. While the bird's crest and upperparts are mainly blue, its wings and tail have black bars and white highlights. Its back is quite lavender and chest is white. Its bill and feet are black, and the bird's face is white and neck is surrounded by a black collar.









On the first day of 2018,

in the wee hours before dawn, Brad Jacobs sat hunched over the kitchen table of his mid-Missouri home. His dog lay on the floor beside his chair, whining occasionally for attention. His cat meowed, expecting breakfast. Brad stirred a handful of pecans into his yogurt, lost in thought.

He was a man wrestling with a decision — a choice so paramount it would affect almost every aspect of his life over the coming year.

Outside, the temperature hovered at negative 9 degrees. How easy, he thought, it would be to crawl back into bed.

Instead, as he often did when he needed to clear his mind, Brad grabbed his binoculars and headed off to chase birds.

A Lead-Off Shrike

The tires of his SUV crunched on frozen gravel as he drove west. The vehicle's interior was littered with maps, notebooks, and birding paraphernalia. A cup of coffee, left over from the night before, rattled in the cup holder, and Brad sipped "cold brew" as it thawed.

With its smorgasbord of crop fields and grasslands, the farm he arrived at was known locally as a bird magnet. But on what would end up being the coldest day of 2018, Brad had to canvas the patchwork of barren fields several times before he found what he was searching for. Perched on a power line, with its feathers fluffed up against the bitter cold, was a northern shrike.

Two species of shrikes, northern and loggerhead, turn up in Missouri. Both have nearly white bellies, gray backs, and black masks over their eyes. If the two sat side by side, a beginning birder might think they were the same species. But the northern shrike is here only from November to March. It is slightly bigger than the loggerhead, has a thinner black mask, and the tip of its beak has a tiny but noticeable hook.

Also — and this is key — the northern shrike is a much rarer find in Missouri.

The Mother of All Lists

Most birders go birding simply for the pleasure of watching a winged creature go about its life. But many birders are also obsessive list-keepers. They keep yard lists, county lists, state lists, month lists, year lists, life lists. Equal parts résumé, memoir, and travelogue, the lists record the species, dates, and locations that commemorate a birder's existence. And, as often happens when people tally their achievements, list-keeping has become something of a sport.



In one of the simplest competitions, birders vie to see how many species they can record from midnight to midnight. In Missouri, such efforts are usually undertaken in May when a flush of northbound migrants promises ample species to count. The result is called a Big Day, and Missouri's record is 208 species.

The pinnacle of competitive birding, however, is the Big Year. In this, hardcore birders zigzag across the world, a continent, or a particular region to tally as many feathered creatures as possible in a year. In 2016, John Weigel shattered the North American record by tallying 783 species. In 1991, Timothy Barksdale set a new Missouri Big Year record with 314 species. Though this may sound unimpressive to a nonbirder, consider this: Barksdale recorded 40 percent of the birds found on the continental list, but he did it within the relatively tiny confines of the Show-Me State.

To beat such a record would require careful planning, hard work, and no small amount of luck.

Lists — Not Just for Keeping Score Birders' lists aren't just for keeping score. Using online applications such as eBird, lists can be made available almost instantaneously to other birders and scientists. This helps bird enthusiasts track down a once-ina-lifetime sighting before it flies

away or simply learn what has recently been seen in their area.

Uploaded lists have also revolutionized scientists' understanding of bird biology. On average, the eBird database receives a checklist from someone, somewhere in the

world every 7 seconds. This astronomical amount of data helps biologists learn more about migration routes, habitat use, timing of nesting, and shifts in population sizes and ranges across local, regional, and continental scales.

Close, but no Record

In November 2016, after 29 years of working for the Missouri Department of Conservation, Brad hung up his hat as state ornithologist. A paradox of his profession was that while he devoted countless hours to bird conservation, he was left with relatively few moments for bird-watching.

Retirement offered a chance to make up for lost time, and Brad hoped to do so in a big way. He wanted to set a new Missouri Big Year record.

By November 2017, he had surpassed his personal Missouri Big Year when he spotted a red-necked grebe near St. Charles. By the end of December, he had picked up 10 more birds. Yet despite his incredible effort — rising before dawn every day, crisscrossing the state to chase rare birds, spending more than 200 days afield — he had managed to tally 310 species, four fewer than the state record.

Now, as a new year of chasing birds stretched out ahead of him, Brad wondered if he had the stamina — or the desire — to attempt the record again.

A Northern Visitor

A few months earlier, Brad had photographed an evening grosbeak at a bird feeder in northeast Columbia. Evening grosbeaks are known to biologists as an "irruptive species."

Most of the time, they spend their lives munching on seeds, berries, and buds in coniferous forests far north of Missouri. But every few years, grosbeaks mysteriously appear in places south of their normal winter range. And then, just as mysteriously, they vanish.

Brad figured if the feeder was well-stocked with sunflower seeds, there might be a chance the grosbeak could still be found. And sure enough, as he eased into the driveway, he spotted a heavyset finch with a massive, seed-crushing beak.

On New Year's Day, while most of us were still sleeping off the excesses of 2017, Brad Jacobs had already recorded two rare birds for the year.

Perhaps, he decided, another run at the Big Year wasn't out of the question.

Plan of Attack

According to Missouri's Bird Records Committee, 435 feathered species have fluttered, flapped, swooped, or soared through the Show-Me State at one time or another. Five species, including the passenger pigeon and the Carolina parakeet, are now extinct. Three species, such as the red-cockaded woodpecker, once occurred in Missouri but haven't been seen in these parts for decades. And 12 species are listed as "provisional," which is a fancy way of saying the evidence for the bird isn't definitive enough to confirm its sighting.

The committee groups the remaining 415 species into five categories: common, uncommon, rare, casual, and accidental.



Birds in the common category (think American robins) can be observed daily, often in large numbers. At the other end of the continuum, accidental birds have been recorded fewer than five times in Missouri.

Brad knew that it should be easy to find all the common and uncommon birds on the list. But to surpass Barksdale's record, he would be challenged to find at least 50 additional birds.

He hatched a plan of attack: He would pick up common birds in his day-to-day outings. When a rare bird was reported, he would drop everything and chase it. He kept a spreadsheet with separate columns for common, uncommon, rare, casual, and accidental species. As he added birds to his Big Year list, he shaded them on the spreadsheet. This way, he knew at a glance which ones he still needed to pick up.

In theory, this plan seemed simple. In practice, it was grueling.

On most days, Brad woke between 1 a.m. and 3 a.m., quietly gathered his gear, and then drove to some far-flung corner of the state to track down a rarity. Once he found it, he would bird his way home until sundown, picking up as many other species as he could.

At night, he pored over rare bird sightings on the internet, including eBird (ebird.org), an online clearinghouse of real-time sightings. He also received daily tips from his extensive network of birding friends via email, phone, or text.

Starting with a Nuthatch

Brad identified his first bird at age 11 when he saw a whitebreasted nuthatch creeping down the trunk of an apple tree in the backyard of his parents' Massachusetts home. He didn't know it then, but that ubiquitous gray-and-white bird set in flight a passion for winged creatures that would last for more than six decades.

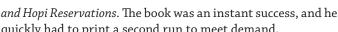
After graduating from Cornell University, Brad joined the Peace Corps and flew off to Colombia. There, in the Amazon Basin, he taught conservation and ecology to national park wardens. In return, the wardens helped Brad hone his Spanish. A third year with the Corps sent him to the Galápagos Islands. As a biologist at the Darwin Research Center, he taught bird workshops for high school teachers, surveyed endangered Galapagos petrels, and banded albatrosses, boobies, and tropic birds.

Back stateside, Brad found work in the construction industry. In the 1980s, he landed a job teaching building trades on the Navajo Reservation in Arizona. He spent his free time birding the desert and scrubland, and published Birding on the Navajo

and Hopi Reservations. The book was an instant success, and he quickly had to print a second run to meet demand.

In 1987, Brad joined the Missouri Department of Conservation as a natural history biologist. His first job: raising nestling bald eagles at Schell-Osage Conservation Area. Other birdrelated tasks followed. He slogged through gumbo muck to survey stealthy marsh birds. He banked over Ozark rivers in a small plane to locate wild cane thickets so he could check them later for rare Swainson's warblers. He spearheaded a herculean effort to map all the bird species that nest in Missouri, the results of which culminated in the Missouri Breeding Bird Atlas. And he wrote another book, Birds in Missouri, the definitive guide to the Show-Me State's feathered fauna.

At the turn of the millennium, Brad began working with Partners in Flight, an organization created to protect migratory birds. He formed partnerships with other states and Canadian conservation agencies. He summoned the Spanish he learned during his Peace Corps days to foster relationships with Central American and South American conservationists.



Online Resources for **Birders**

ebird.org

Birders post their sightings for biologists and other birders to use.

mobirds.org

The Audubon Society of Missouri offers flocks of bird-related information, including a birder's calendar and the official checklist of Missouri's birds.

mobirds.org/RecordsCommittee/Doc.aspx

If you find a rare bird, this page explains how to document it.

greatmissouribirdingtrail.org

The Great Missouri Birding Trail maps the hottest birding locations in the state.

allaboutbirds.org

Cornell's online field guide has nearly everything you ever wanted to know about birds.

He worked tirelessly, setting in motion a hemispheric effort called Southern Wings that laced together patches of nesting, stopover, and wintering habitat from the Arctic tundra to the Patagonian steppes.

This was the thing Brad was proudest of in his long career. This was his legacy to future bird lovers.

Sharing a Spoonbill

By the end of January, Brad had racked up over 100 species. By April, he had 200. And by May, he had checked off 300 — just 15 species shy of the record.

One afternoon in June, a naturalist at Mingo National Wildlife Refuge reported that a roseate spoonbill had been spotted on the 21,000-acre swamp. Brad dropped everything and drove south. He arrived at the refuge at 3 p.m. and scoured the wetland for hours, but he couldn't find any sign of the spoonbill.

Just before sundown — as a last-ditch attempt — Brad set up his spotting scope at an overlook and painstakingly surveyed the marsh. And there it was, a bubble-gum pink wading bird with a spatulate bill.

As the western sky faded from salmon to gray, a red SUV pulled up. Out hopped Kendell Loyd, graduate student, birder, and Big Year chaser.

Missouri's birding community is a friendly flock. Many birders share information with each other and often show up at the same locations to see rare birds. For Brad, a Big Year was a cooperative effort, and he enjoyed helping fellow birders record new species.

In a few more moments, the spoonbill would disappear into the evening gloom. Brad knew Kendell might miss his chance if he had to set up his own equipment. So, Brad gestured to his spotting scope and said, "Take a look."





Chasing Rare Birds

Cave swallow, wood stork, rufous hummingbird, white ibis, anhinga. Bird by bird, Brad doggedly bagged one rarity after another.

On Sept. 24, while preparing for a bird identification workshop at Eagle Bluffs Conservation Area, Brad and his friend Paul McKenzie noticed a nondescript brown bird land in the grass 10 yards away. They swung their binoculars up to take a look.

It was a sparrow, but what kind? Brad ticked off field marks: Flat head. Short tail. Orange wash on the head and breast. Gray cheek. Gray, unstreaked nape.

There was no doubt about it. It was a Nelson's sparrow, a great bird to share with the workshop attendees. It also happened to be Bird No. 314.

Brad had just tied Barksdale's record.

The Last Laugh

Two days later, with Paul and Pete Monacell as copilots, Brad set out early on a gull reconnaissance mission. The three spent most of the day at Long Branch State Park, sweeping spotting scopes through gulls loafing lazily along the lake's shoreline. Gull by gull they peered at dozens, hundreds, thousands of birds, hoping to sort a rarity from the run-of-the-mill. By midafternoon, they realized a new bird wasn't to be found.

On the way home, they stopped at Thomas Hill Reservoir to set up scopes at a lookout appropriately named "Gull Point." Thousands of gulls were strung out on the far shore, half a



mile away. Brad, Paul, and Pete painstakingly looked at each one. An hour later, Paul let out a yelp. He'd spotted a first-winter laughing gull.

Despite precise directions, Brad could not find the bird. With the sun quickly setting, he swept his scope back and forth, over and over. Finally, he saw it, a large brown bird that couldn't be anything but a laughing gull. But this was an important find, and Brad needed proof. Nearly in panic, he connected his iPhone to the scope and videotaped half a mile of gulls.

Late that night, on his home computer, he looked at the video and confirmed the ID. It was definitely a laughing gull. More importantly, it was Bird No. 315.

He had just broken Timothy Barksdale's 27-year-old record.

A Sky-Blue Bird

Brad continued to bird through the fall and into winter. Pomarine jaeger, Sabine's gull, rock wren, snow bunting, long-tailed duck, black scoter, western grebe. Bird by bird, he padded his Big Year with rarities.

On Nov. 30, he drove to St. Clair County, hoping to find a mountain bluebird seen the day before. It had been hanging out in a triangular patch of pasture near Wah'Kon-Tah Prairie. Brad drove the perimeter of the triangle more than 10 times before he found the bluebird. It would turn out to be the last new bird he saw in 2018, and it brought his final tally to 323.

Brad snapped a picture of it perched on a fence post, a skyblue bird against a bluebird sky. \blacktriangle



Matt Seek is the kind of person who looks up when someone yells, "Duck!" When he isn't searching for birds, he's searching for words as an editor and writer for MDC.

BRAD'S BIG YEAR

BY THE NUMBERS

Bird species recorded out of 415*

Days spent birding

"Easy" birds missed:

(Sprague's pipit)



Counties visited

Other birders who also surpassed Barksdale's record

Rare, casual, and accidental birds recorded

*according to the annotated checklist of Missouri Birds from the Audubon Society of MO, August 2018



Tips for Big Year Chasers

Got dreams for chasing your own Big Year? Here's a bit of advice from the recordholder himself.

- ✓ Treat every year as a personal Big Year. Every year after that, strive to see more birds.
- ✓ Learn all you can about bird behavior. Knowing when and where birds are likely to turn up will help you find more birds.
- ✓ Use a checklist. Missouri's official one can be found at mobirds.org/Birds/MOChecklist.aspx.
- ✓ Find a mentor. The more you bird with better birders, the better a birder you will become.
- ✓ Share what you know. Post your sightings on eBird. Help other chasers find rare birds. Take a young birder under your wing.

Brad's Rare Birds

Of the 59 rare, casual, and accidental birds Brad spotted in 2018, more than half were found on public land. Although there's no guarantee that you'll spot a rare bird if you visit, there's no guarantee that you won't.

RARE CASUAL ACCIDENTAL

B.K. Leach Memorial CA in Lincoln County • King rail

Bradford Farm (University of Missouri) in Boone County • Northern shrike

Carondelet Park in St. Louis City • Black-throated blue warbler

Duck Creek CA in Wayne County • White ibis

Eagle Bluffs CA in Boone County • Black-bellied whistling-duck • Piping plover •

Red-necked phalarope • Ruff

Fellows Lake in Greene County • Pacific Ioon

Four Rivers CA in Vernon County • Marbled godwit • Neotropic cormorant

Grand Pass CA in Saline County • Golden eagle

Hawn State Park in Ste. Genevieve County • Red crossbill

Long Branch State Park in Macon County • Snow bunting

Mark Twain Lake in Monroe County • Red phalarope

Riverlands Migratory Bird Sanctuary in St. Charles County • Glaucous gull • Lesser black-

backed gull • Long-tailed duck • Sandhill crane • Tundra swan • White-winged scoter

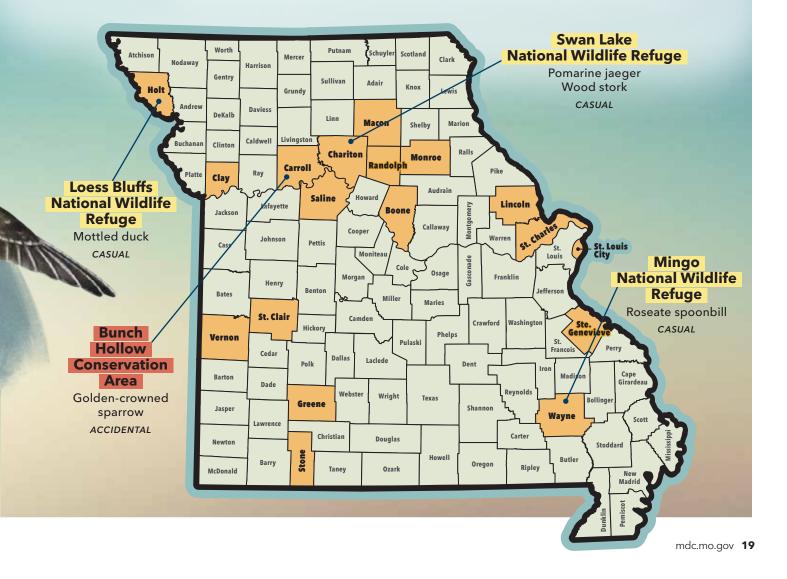
Schell-Osage CA in St. Clair County • Glossy ibis • Western sandpiper • Yellow rail

Smithville Lake in Clay County • Black scoter • Iceland gull

Taberville Prairie CA in St. Clair County • Greater prairie-chicken

Table Rock State Park in Stone County • Red-throated loon • Western grebe

Thomas Hill Reservoir in Randolph and Macon counties • Laughing gull • Sabine's gull









With their handsome curves and bright hues, wooden duck decoys beg to be picked up and examined more closely.

Today, few wooden decoys are used for their intended purpose. But they are prized by collectors, who appreciate their value as American folk art.

The earliest known waterfowl decoys are more than 2,400 years old and were

found well-preserved in a Nevada cave in 1924. Native Americans understood the value of deploying decoys — which they fashioned from reeds, clay, natural pigments, and feathers — to lure waterfowl closer to their arrows and spears. As Europeans colonized and settled the continent, they adapted these techniques to create decoys carved from wood.

By the late 1800s, the demand for decoys was growing. Roast duck was considered a great delicacy, market hunting was a big business, and waterfowl hunting was a popular recreational activity.

Many were hand carved in basements and workshops by lamplight. Even more were produced in small factories across





the nation. In the Midwest, the Mason Decoy Company, based in Detroit and started by William J. Mason, manufactured many quality decoys. And some of the most collectible decoys were carved and painted by Illinois River Valley artists who transformed the merely functional into objets d'art.

Positioned prominently along the Mississippi flyway, Missouri hunters had plenty of access to habitat and plenty of need for good decoys.

Factory Made

Missouri's duck history is primarily defined by a few factories — most in the Jefferson City area — that churned out hundreds of thousands of wooden ducks from the early 1920s through the end of World War II.

One of the first archivists to record the industry's history was Jim Goodrich, an avid collector in his own right, but also director of the Historical Society of Missouri. Today, a group of dedicated Missouri collectors are building upon Goodrich's work, trying to better understand where those factories were located, who worked in them, and how the decoys were crafted.

Like trying to authenticate an oil painting's true creator or unravel the mystery of a long-buried antiquity, it's not always clear which U.S. companies manufactured which models. Not all were labeled or stamped and many were very similar. For a variety of

reasons, determining which companies manufactured which decoys is a fun and intriguing puzzle for collectors such as Greg Renner of Columbia.

In the beginning, Renner tended to pick up whatever seemed vaguely interesting. But he soon gained an appreciation for the beautiful design and delicate hand painting of the Illinois River duck decoys. As his knowledge grew, he took an interest in Missouri's factory decoys, eventually narrowing his focus to ones manufactured by three Jefferson City-based companies.

Jefferson City's Factory Decoy Tradition

A successful entrepreneur and enthusiastic outdoorsman, James M. Hays was the first Missouri resident to establish an assembly-line operation using duplicating lathes around 1920. Hays' early models resembled those of Mason, an Irish immigrant who settled in Detroit where he manufactured high-end decoys.

In fact, his early models are so much like Mason's that even expert collectors struggle to differentiate between them. Renner said.

The Mason Co. mastered the application of paint, making a product not only beautiful but also durable enough to withstand the harsh conditions of waterfowl hunting.

> Changes to the Hays, Gundelfinger, and Benz (left, center, and right) decoys were subtle over time. This occurred, in part, because elements of the machinery, inventory, and some of the labor pool also transferred as the companies



Greg Renner, seen here with two Jefferson City decoys, said it's the "rich sense of art and history" that has compelled him to collect antique wooden decoys.

But many were not marked at all.





Iron molds used on duplicating lathes made it easier for the Hays, Gundelfinger, and Benz companies to churn out thousands of decoys, which were sold to sportsmen and women across the **United States.**

Jefferson City was a leader in scratch painting and comb painting, two techniques used to simulate a realistic appearance.

Hays was not able to fully replicate Mason's deftness with paint. But Jefferson City's workers were more familiar with manufacturing wooden goods — from saddle trees to car bumpers — and they understood how to manage wood selection and grain patterns to prevent splitting.

"Many Mason decoys have splits. Jefferson City birds rarely do. They stand the test of time. They even advertised: 'Our decoys won't split'," Renner said.

The Hays Wood Products company effectively had two different ownerships. In 1922, Hays was acquired by Standard Crate & Filler, a wooden egg crate supplier. The company modified the painting and degree of carving done to the decoys, but continued to use the

Hays name, which has led to confusion in the decoy-collecting community, Renner said. They also launched a feature

> that became a hallmark of Jefferson City: the concept of scratch and comb painting. This involved an initial primer coat and a second coat, he explained. The worker then ran a comb across the wet second laver to make it look like feathers.

Unfortunately, Standard Crate & Filler's main products never succeeded and by 1925 that company was forced to declare bankruptcy.

The Gundelfinger family purchased at least part of Hays' machinery and inventory and continued to use the equipment to manufacture Grand Prix and Superior models under the name "Duck-Lures." The decoys were advertised in sporting catalogues and magazines.

"Early Gundelfingers tend to have heavy paint that can look wonderful when found in mint condition," Renner said. "Unfortunately, most are found with considerable paint chipping."

Picking up a green-winged teal, he noted it was made by Tom and Birdie Rice, a Holts Summit couple. "He worked the lathes at the Gundelfinger and Benz factories and she painted them on the farm in her spare time," he noted. "She had very good skill with comb painting."

But once again, the company succumbed to the era's economic pressures and was declared bankrupt in 1929.

Jefferson City resident Harry Benz bought the equipment and remaining stock at auction, and began production within days of the October stock market crash of 1929.

Benz stayed in business the longest — 15 years. (The old factory still exists as a Fraternal Order of Eagles club today.) The company didn't close its doors until lighter-weight and less expensive paper mâché and plastic products eclipsed wood.

Solving the Puzzle

A duck with a paper or ink stamp still affixed, or a cold stamp imprinted, is considered a positive indicator of the manufacturer. Unfortunately for



collectors, many paper stamps were knocked loose and ink faded with time. Most Jefferson City decoys were never marked.

A key feature of all Jefferson Citymade decoys is a smooth 5/8th inch neck dowel. (Renner does not recommend disassembling ducks to examine them; he does check ones that are loose.)

"The same equipment and some of the personnel went from company to company," Renner explained. "I've never found a Jefferson City duck — that has a stamp on it — that doesn't have the 5/8th inch dowel."

Renner's end goal is to be able to pick up a decoy and definitively say which company manufactured it. By closely comparing labels, stamps, dowels, paint style, and other physical evidence, he's settling some of the controversy surrounding which manufacturers made which decoys. He's also made strides in clarifying the subtle differences among the Jefferson City-made decoys.

In 2018 and 2019, he presented his findings at the annual spring shows of the Midwest Decoy Collectors Association (MDCA). The first year, he focused on Hays' decoys. The next, he showed the evolution from Gundelfinger to Benz.

Other Missouri Factories

Wooden decoys were manufactured in other Missouri locations, too.

St. Louisan William Levy submitted a patent in 1919 for a two-dimensional wooden silhouette, with hinged floatboards. It is thought Levy continued to sell his folding decoys through the early 1920s.

The American Cartridge Company in Kansas City only made wood decoys for a year. But the ones the company did make have a unique feature: the duck heads folded into the body to prevent breakage, Renner explained.

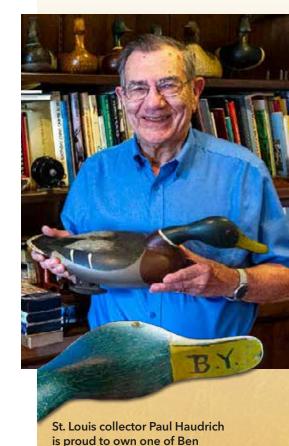
Wood wasn't the only material used. Other Missouri decoy factories produced models made of wire-and-painted canvas, rubber, plastic, Styrofoam, and papier mâché.

Crafted by Hand

A small number of talented Missouri artisans created handmade decoys.

St. Louisan Ben Yeargan hunted near the confluence of the Missouri and Mississippi rivers. "He stands out as Missouri's most-accomplished individual historic decoy-maker," said Renner.

In 1932, Yeargan completed a rig of 20 canvasbacks and 24 mallards. An avid outdoorsman, his decoys have selfrighting cast-iron keels — a trick he may have learned as a member of the St. Louis Model Yacht Club. A few years later, he carved a second rig of mallards and Canada geese.



Yeargan's drakes. This one is

striking a swimmer pose.





Fascinated with waterfowl hunting from a young age, Randy Crawford enjoys collecting and studying the history of one of Jefferson City's best-kept secrets, Jefferson City decoys.



St. Louisan Paul Haudrich has collected about 100 decoys, including one of Yeargan's drakes. Haudrich said Yeargan was originally a Texan who worked for the St. Louis Post-Dispatch and hunted in the Portage Des Sioux area.

"Ninety percent of the people who made their own decoys in the 1920s did it for economics. It was a way to fill the family larder," Haudrich said. "Yeargan was a self-taught guy. He was able to paint the correct colors because he kept mallards in his yard."

On the opposite side of the state in St. Joseph, Felix Ziolkowski carved decoys for his own personal use and for sale in local stores. "When he died, his three teenage daughters continued to make decoys, and they made hundreds of them," said Renner.

Harold "Pete" Chowins and Everett "Brownie" Brown, employees of the Kansas City Water and Light Company, carved decoys together in their spare time and made their own unique mallard, pintail, and teal decoys. They also made geese designed with legs that could be set into the ground or ice, Renner noted.

"There are also a few individuals who have continued the tradition of wooden decoy-making in modern times," noted

Renner. "Woodson Roddy of Clinton was a fine arts teacher who continued many early traditions to make his own rifles, boats, and decoys."

Collectors' Obsession

Randy Crawford's love of waterfowl started in southeast Iowa in the late 1950s. As a boy, he listened to his grandfather's and father's hunting exploits.

"I have a distant memory of my sister and I sitting in a Lake Odessa duck blind in a marshy backwater of the Mississippi River. My dad admonished us: 'Sit in the bottom of the boat and be still!' My sister never went duck hunting again, but I was hooked," he said.

Fascinated with duck hunting from an early age, Crawford purchased his first wooden decoy — a bluebill — at an antique store. The bluebill has long been sold, but that decoy was first inkling of what grew into a satisfying hobby for Crawford.

He added to his collection with six decoys his dad rescued from a pile of junk at an Iowa farm auction.

"My dad didn't see anything interesting in the auction, so he walked around behind the barn and noticed a wagon filled with wooden decoys. He asked the guy: 'Can I have some of them?' The guy said: 'Take all you want, because we're going to set them on fire.' He got what he could carry in one trip. I always asked him: 'Dad! Why didn't you make several trips?'"

Worthless in the 1960s, those decoys became collectible with time.

Born and raised in Iowa, Crawford moved to Missouri, attended Northeast Missouri State University, and eventually settled in the Jefferson City area, where he retired as water quality monitoring chief at the Missouri State Environmental Laboratory.

With his interest piqued, he started to research and collect Jefferson City's decoys, building on his collection of Iowa ducks. Like Renner, he loves uncovering those little bits of history, such as stories about Burlington, Iowa, lumberyard workers who made decoys in the off-season.

"A lot of duck hunters were carpenters," he noted. "They worked in the warm season. In the autumn, when it was too cold and rainy to work, they were out hunting anyway."

For every collector at some point, casual appreciation crosses over to true curiosity. They begin to ask themselves: What makes this one special? How are they different? What have I got here? Is it worth anything?

When asked when it became a passion to learn about decoys, Crawford joked, "You mean a problem?"

He noted it's the artistry and functionality that attracts him. "Me? I hardly can sharpen a stick. And so, I collect," he said.

Renner agreed. "Most collectors will be quick to say they feel a very rich sense of art and history in old wooden decoys."

Haudrich views decoy collecting as a wonderful way to celebrate the United States' history, geography, folklore, and cultural heritage. "They are Americana ... folk art," he explained. "When collectors see something older and nice, they want to preserve it."

To expand their knowledge base, the Missouri Decoy Collectors Group meets annually at Runge Nature Center in Jefferson City. Additionally, Renner, Crawford, and Haudrich have formed a special Jefferson City Decoy Study Group, within the structure of the MDCA.

"The next time you see a wooden duck decoy, consider that a lot of time and effort went into its manufacture, and a considerable history might be quietly told," Renner said. ▲

Kristie Hilgedick is on MDC's

They are Americana ... folk art. communications team. She enjoys traveling to new places and spending time outdoors. These two Canada goose decoys made by Gundelfinger (front) and Benz (back) are classic examples of the fine workmanship of Jefferson City decoy manufacturers.

Get Outside DECEMBER-



A Goose of a **Different Color**

Snow goose populations peak at wetlands this month.

Snow geese have two color morphs, white and blue. The white morph is almost totally white with black wingtips. The blue morph is actually more gray, with a white head and neck.





Is That a Mushroom?

Yes! Oyster mushrooms are still popping out during damp weather, so get out and find them. These choice edible mushrooms can be found on stumps, logs, and trunks of deciduous trees. For more information about Missouri mushrooms, visit short.mdc.mo.gov/ZYM.

OZARK REGION

Gist Ranch Day Hike and Backpacking Basics

Saturday, Dec. 14 • 9 a.m.-1:30 p.m. Gist Ranch Conservation Area 5011 Wallen Rd., Eunice, MO 65468 Registration required. Call 888-283-0364 or register online at short.mdc.mo.gov/ZAg by Dec. 13. Ages 12 and older. Under 16, must be accompanied by an adult.

Join us for a day of hiking through the beautiful Gist Ranch Conservation Area. Participants will wind through the Ozark forests, glades, and across a creek along a roughly 4-mile trail rated as moderate. The trail is mostly flat, with several steeper inclines. Along the trail, MDC staff will introduce the basics of backpacking, including water filtration and backpack stove options and procedures and wildlife awareness. Bring a day pack with a sack lunch, snacks, and a large water bottle. Wear sturdy hiking shoes. Meet MDC staff at the Gist Ranch Shooting Range where we will carpool to our starting point.

Natural Events to See This Month

Here's what's going on in the natural world.



Red foxes mating



Beavers feed on sapling



Ice sculptures form in streams due to freezing and thawing

The Early Bird

You are sure to see winter-resident birds — cardinals, titmice, chickadees, nuthatches, and more — at your bird feeder. But what about woodpeckers? Attract **downy**, hairy, pileated, and red-bellied woodpeckers to your yard by hanging a suet feeder.

SOUTHEAST REGION

Winter Bass Skills

Friday, Dec. 20 • 6:30-8 p.m.

Cape Girardeau Conservation Nature Center
2289 County Park Drive,
Cape Girardeau, MO 63701

Registration required.

Call 888-283-0364 or register online
at short.mdc.mo.gov/ZAM by Dec. 19.

Ages 12 and older.



Winter bass fishing can be a great time to catch monster bass if you have the skills and tackle, which encourage sluggish fish to bite. This program is geared to new anglers or those who wish to learn finesse fishing skills, such as drop shot, Ned rig, neko rig, shaky head, and other techniques. While we will not be fishing, participants will be hands-on with tackle and learn when each style of rigging is most effective on different parts of the lake. Participants will go home with several lures to test on their favorite winter water.

Baby, It's Cold Outside ... So Get Out There!

Winter may be upon us, but don't stow away your tents and canoes, kayaks, or other water vessels. With some planning and the right gear, winter camping and floating can be amazing. Dress in layers, wear warm, waterproof boots, and pack plenty of snacks. If there's snow on the ground, use a sled to haul your gear. No need to stay inside when the temperature drops and the snow gets to blowing.

Skunks sleep when temperatures reach 15 degrees or below



Raccoons den up during snow and ice storms



Places to Go

CENTRAL REGION

Plowboy Bend Conservation Area

Bottomland area continues transition following historic floods

by Larry Archer

After being inundated by the historic floods of 1993 and 1995, Plowboy Bend Conservation Area (CA) began a transformation from farmland to forestland that continues to this day.

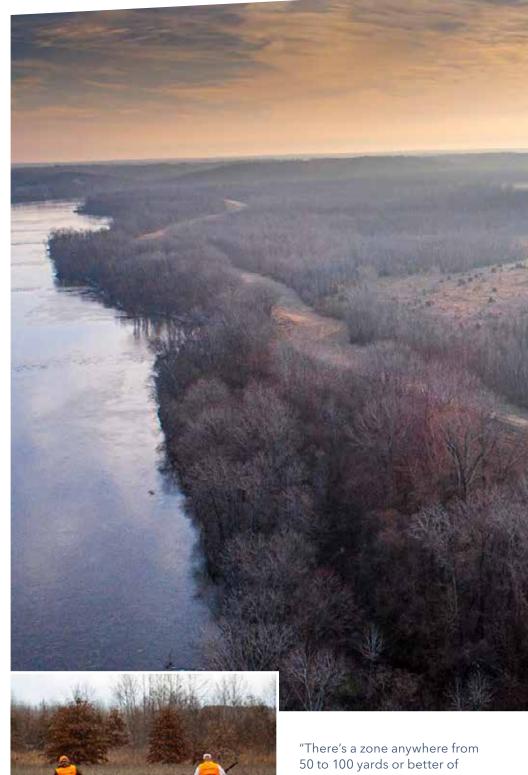
Named for a 19th century steamboat that sank in the nearby Missouri River, the nearly 2,617-acre Plowboy Bend CA was one of several areas of former farmland converted to conservation areas as part of a flood mitigation plan, said Plowboy Bend CA Manager Frank Drummond.

"It's a river bottom area," said Drummond, a wildlife management biologist. "It was pretty much nearly all cropped until the department acquired it in '95."

While nearly one-third of the area remains in crops — some for the benefit of wildlife, some in traditional agriculture — the remainder of the area has reverted, or been converted, to forest, he said.

"A lot of that has grown up in cottonwoods, sycamores, willows, and the like," he said. "The department's been involved with putting in about 80 acres of largely oak, but also pecan trees, on the area trying to introduce a mast component."

As during 1993 and 1995, Plowboy Bend CA has spent much of 2019 underwater, so check on conditions before planning a visit.



50 to 100 yards or better of woods between the levee and the river, but there are some parts where the river comes up pretty close to the levee."

> —Plowboy Bend CA Manager Frank Drummond



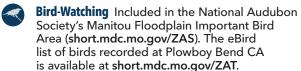


PLOWBOY BEND CONSERVATION AREA

consists of 2,616.9 acres in Moniteau County. From Jamestown, take Route Y north 5 miles to the end of the pavement, and then continue on Riverbottom Road east ½ mile, crossing railroad tracks to the area.

N38° 48′ 49.68″ | W92° 25′ 24.96″ short.mdc.mo.gov/ZAq 573-815-7900

WHAT TO DO WHEN YOU VISIT



Camping Designated campsites available.
Float-in open camping allowed within 100 yards of Missouri River between April 1-Sept. 30.

Fishing Along Missouri River. Catfish

Hiking No designated hiking trails. Hiking allowed along maintenance access roads and levee.

Hunting Deer and turkey
Deer and turkey regulations are subject to
annual changes. Please refer to the Spring
Turkey or Fall Deer and Turkey booklets for
current regulations.

Also dove, quail, and rabbit

Waterfowl Hunting Open hunting. Please refer to the *Migratory Bird and Waterfowl Hunting Digest* for current regulations.

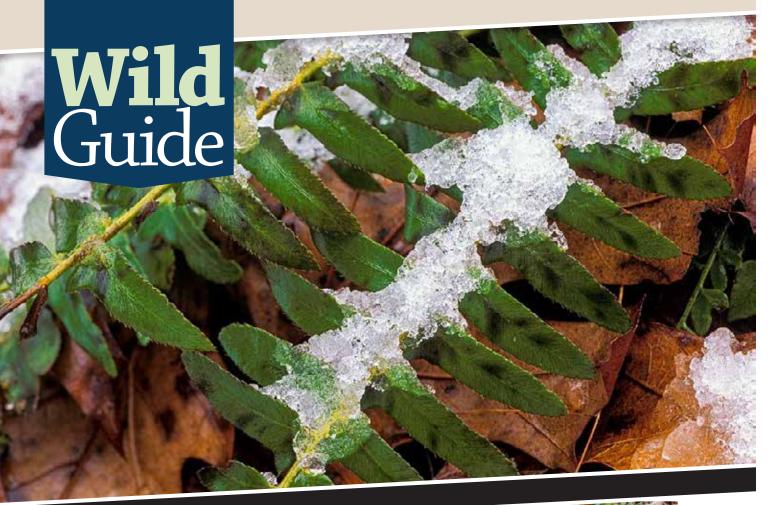
WHAT TO LOOK FOR WHEN YOU VISIT











Christmas Fern

Polystichum acrostichoides

Status Common

Leaves: 4 to 30 inches long; leaflets: usually 2 to 3 inches long **Distribution**

Statewide



Did You Know?

Christmas ferns got their name from pioneers who cultivated the plants, making them into Christmas wreaths.

hristmas ferns, also known as holly ferns, are perennials that produce two types of leaves — ones that produce spores and ones that do not. The fertile leaflets of the fern are smaller and wither by winter. The sterile leaflets, by comparison, are larger and last through the winter, often lying flat on the ground.

The fern's lance-shaped leaflets are spiny-toothed with bristle tips, similar to holly leaves. The spore clusters are in rows of circular, umbrella-like structures, which can be so close together that they may cover nearly the entire leaflet undersurface.

Christmas ferns, like other ferns, have a two-part life cycle. The plant we see is called a sporophyte, because it produces spores. Spores, produced on the undersides of the leaves from June through October, are extremely small seedlike packages that can blow in the wind or be carried by water. When the spores germinate, they become the other part of the life cycle, the gametophyte. The gametophyte is a tiny, flat, green, heart- or kidney-shaped plant that produces eggs and sperm. The sperm must swim to reach the eggs, so water must be present for fertilization to occur. The fertilized eggs then develop into new sporophyte plants — the ferns we are accustomed to seeing.

ECOSYSTEM CONNECTIONS

During winter, the leaves of Christmas ferns hold fallen leaves against the ground, speeding their decomposition and enriching the soil. Not many animals eat the leaves of Christmas ferns, so they help stabilize slopes and prevent erosion.

Outdoor Calendar

MISSOURI DEPARTMENT OF CONSERVATION

Lifetime permits make great gifts!

For more information, call 573-522-0107 or email lifetime.permit@mdc.mo.gov

FISHING

Black Bass

Impounded waters and non-Ozark streams: Open all year

Most streams south of the Missouri River: May 25, 2019-Feb. 29, 2020

Nongame Fish Gigging

Streams and Impounded Waters, sunrise to midnight: Sept. 15, 2019–Feb. 15, 2020

Paddlefish

On the Mississippi River: Sept. 15-Dec. 15, 2019

Trout Parks

Catch-and-Release: Nov. 8, 2019-Feb. 10, 2020

TRAPPING

Beaver, Nutria

Nov. 15, 2019-March 31, 2020

Other Furbearers

Nov. 15, 2019-Jan. 31, 2020

Otters, Muskrats

Nov. 15, 2019-Feb. 20, 2020

Rabbits

Nov. 15, 2019-Jan. 31, 2020

For complete information about seasons, limits, methods, and restrictions, consult the *Wildlife Code of Missouri* at **short.mdc.mo.gov/Zib**. Current hunting, trapping, and fishing regulation booklets are available from local permit vendors or online at **short.mdc.mo.gov/ZZf**.

HUNTING

Coyote

Restrictions apply during April, spring turkey season, and firearms deer season.

Open all year

Crow

Nov. 1, 2019-March 3, 2020

Deer

Archery:

Nov. 27, 2019-Jan 15, 2020

Firearms:

- ► Late Youth Portion (ages 6-15): Nov. 29-Dec. 1, 2019
- ► Antlerless Portion (open areas only): Dec. 6-8, 2019
- ▶ Alternative Methods Portion: Dec. 28, 2019–Jan. 7, 2020

Groundhog (woodchuck)

May 6-Dec. 15, 2019

Other Furbearers

Nov. 15, 2019-Jan. 31, 2020

Pheasant

Regular:

Nov. 1, 2019-Jan. 15, 2020

Quail

Regular:

Nov. 1, 2019-Jan. 15, 2020

Rabbit

Oct. 1, 2019-Feb. 15, 2020

Squirrel

May 25, 2019-Feb. 15, 2020

Turkey

Archery:

Nov. 27, 2019-Jan. 15, 2020

Waterfowl

See the Waterfowl Hunting Digest or visit short.mdc.mo.gov/ZZx for more information.

Wilson's (Common) Snipe

Sept. 1-Dec. 16, 2019



ATION: MARK RAITHEI





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Just because the temperatures have dipped, don't ditch your hiking shoes. Head out to your nearest conservation area and walk the trails. With the leaves off the trees, you will see more open vistas on your trek. Listen to the birds along the way or bask in the solitude of a crisp, winter day. It's a great time to discover nature.

1 by **David Stonner**